Teaching strategies and gender in higher education instrumental studios

Abstract

This study investigates instrumental music teaching strategies in higher education setting, in order to identify those employed and their frequency and context of use. An instrument- and gender- balanced sample of 24 lessons from five institutions was analysed using a researcher-designed observational instrument. The results reveal the predominance of teacher demonstration, general directives and praise as most frequent teaching strategies employed in lessons. Gender differences emerged in the teaching approaches: the male teachers gave more general directives and explanations and the female teachers offered more answers and practice discussions; the male students received the most of specific teacher criticism despite uniform use of praise. The findings provide new evidence of teaching practices in advanced instrumental studio and raise questions regarding gender issues in music teaching.

Keywords

Instrumental teaching, higher education, gender.

One-to-one instrumental music teaching is a specialised teaching situation and as such employs teaching strategies that are unique to that setting (Uszler, 1992). Existing research has investigated certain aspects of studio teaching such as modelling (Sienbenaler, 1997; Hewitt, 2001), teacher talk (Colprit, 2000; Young, Burwell & Pickup, 2003), reinforcement (Colprit, 2000; Duke & Henninger, 2002; Goolsby, 1997),

questioning (Burwell, 2005; Rosenshine, Froehlich, & Fakhouri, 2002) and practising (Connoly & Williamon, 2004; Jorgensen, 2004).

What is the frequency and context of use of various teaching strategies in applied music lessons? Speer (1994) reported that student playing occupied the greatest part of piano lessons, followed by verbal teacher comments and modelling. In string lessons Colprit (2000) identified 41% of lesson time as being devoted to student performance, 45% to teacher talking and 20% to teacher modelling. Sogin and Vallentine (1992) reported that student playing occupied 40% in university applied music lessons and teacher talk 37%. These studies suggest that, after student playing, teacher talk and modelling constitute the bulk of instrumental lessons.

Background

Teacher talk

If teachers spend such a large proportion of their lessons talking, what is the nature and purpose of that talk? Pallister (1995) investigated piano studio teaching context and observed that teacher talk consisted of task statements (directives), feedback and questioning in nearly equal proportions (27-29% each) and minimal teacher explanations (only 2%). However, these results are probably unique to the setting of the study, which involved young beginner students and experienced, but non-tertiary educated teachers. Colprit (2000) classified verbalisations of Suzuki string teachers' (in order of frequency) as directives, information statements, approvals, questions, disapprovals and off-task statements. A study by Young, Burwell, and Pickup (2003) found that teacher directives ('command-style' teaching strategies) were a predominant teaching strategy in

instrumental music lessons at university level. These studies highlight the need for further clarification in the classification of teacher statements and their comparative importance in lessons.

Feedback

Evaluating student playing is a vital part of instrumental music lessons (Lehmann, Sloboda & Woody, 2007) and is associated with effective teaching (Hendel, 1995).

Teacher praise and criticism can have a significant impact on students' motivation. Research has shown that positive teacher statements had a greater motivating effect on student playing than negative (Bartholomew, 1993), in particular with younger students (Duke, 1999). An important question is how to balance approval and disapproval in teaching. In a classroom setting an 80% approval rate was suggested by Single (1991). In an instrumental music studio teacher approval rate may be related to the student's age with teachers, in general, being more positive with younger students and more critical with older students. For example, Duke and Henninger (2002) reported higher tolerance of teacher criticism by higher education music students who seemed to rate teacher directives and negative feedback equally.

The balance between specific and generic statements also plays an important role in teacher feedback. Bartholomew (1993) suggests that excessive general negative remarks will undermine students' confidence and insincere praise leaves students confused about their achievements. The research evidence on the use of specific and general feedback is mixed, with Carpenter (1988) reporting greater use of general positive feedback by school band conductors and two more recent studies showing more specific positive

feedback and less general positive comments given by expert teachers (Goolsby, 1997; Siebenaler, 1997).

The reviewed studies raise questions about appropriate balance between praise and criticism and the role of specific and general feedback in higher education instrumental teaching.

Questioning

While teacher modelling, feedback and directives comprise a large part of an instrumental lesson, little is known about what role teacher questions and answers play in learning. For example, Carpenter (1988) reports that questions constitute only 3% of teacher verbal instruction and Yarbrough and Price (1989) found less than 2% of questions in teacher verbalisations. However, research shows that effective use of questioning can have a positive impact on student achievement (Single, 1991). Burwell (2005) suggests that subtle teacher questioning can provide impetus for more active and reflective student learning. Teachers need to monitor their talk to avoid disguising directives as questions and using rhetorical questions as such use can lead to passive attitudes in students.

The type of questions being asked by teachers is an important factor in student learning (Single, 1991). Rosenshine, Froehlich, and Fakhouri (2002) identified two types of questions usually asked by teachers: those requiring factual answers and those calling for an explanation of how the answer was found. Although the idea of the benefits of using higher-order questions has been generally accepted in education, there is little evidence of the actual use of different types of questions. Goolsby (1997) found that while expert

teachers asked fewer questions than the student or novice teachers overall, there were eight times as many specific questions as non-specific questions.

Research so far indicates that questioning is an under-used strategy in instrumental teaching. Further evidence of the frequency and the type of questions being employed in higher education studios is needed.

Organisational skills

Lesson planning is of crucial importance in classroom music teaching, but is it necessary in one-to-one instrumental tuition? In higher education it is commonplace for applied music teachers to allow students to set the agenda for a particular lesson. Kennell (2002) points out: 'the pre-lesson production of elaborate teaching plans is not typically a part of the studio lesson tradition' (p. 251). Yet, there is still the need for instructional systematisation such as explicit directions regarding practice, choice of repertoire, use of structural analysis of music, organisational skills and outline of future directions (Abeles, Goffi, & Levasseur, 1992). Persson (1996) confirmed that a lack of progression from one lesson to the next and of clearly identified objectives was discouraging to university students. While research has highlighted good organisational skills as a vital part of effective music teaching (King, 1998), unfortunately, the typical instrumental lessons often lack clear goals, specific tasks, and systematic teaching patterns (Karlsson & Juslin, 2008). These studies highlight the need for greater focus on organizational skills of instrumental teachers.

Practising

Research has investigated many aspects of instrumental practising (see Zhukov, 2009a, for in-depth review of literature). The role of the instrumental teachers is to demonstrate different practice strategies to students, set achievable goals, and evaluate the results (McPherson & Davidson, 2002). Similarly, Rosenshine, Froehlich, and Fakhouri (2002) suggested that clear teacher instructions on how to practise can facilitate student progress. Hallam (1997) describes practice as a metacognitive activity. She suggests that in addition to developing technique, interpretation, memory and performance skills, student need to think about how they habitually practise.

Barry (1992) and Pace (1992) have identified several effective practice strategies, for example practising slowly, with the metronome, mental rehearsal, clapping rhythm and structural analysis. The most common practice strategy is repetition. However, advanced musicians tend to increase the length of mastered passage into progressively longer sections of the piece (Jorgensen, 2004; Miklaszewski, 1989). Another practice strategy is practising away from the instrument without moving a muscle. Research has shown that mental rehearsal is effective (Rosenthal et al., 1988; Pace, 1992) and can improve memory and heighten sensory awareness (Connoly & Williamon, 2004; Tannhauser, 1999).

Higher education applied music teachers are working with advanced adult students, and therefore assume certain knowledge about practising methods. And yet, research has shown that at this level teachers are more specific in their directives and offer a wide-range of approaches (Barry & McArthur, 1994). McPherson and Zimmerman (2002)

suggest that by allowing students to decide which practice methods to use teachers encourage their independence, thinking skills and motivation.

Teacher modelling

Teacher demonstration is an important component of an instrumental music lesson (Lehmann, Sloboda & Woody, 2007). While verbal directions and explanations are equally necessary, a practical demonstration can synthesise all the diverse elements together into a complete performance, which can be absorbed by all the senses (visual, aural, and tactile). Musicians acknowledge modelling as vital to improving performance skills (Barry & Hallam, 2002; Radocy & Boyle, 1997). Dickey (1992) found significant research evidence that teacher modelling promotes student achievement. Sienbenaler (1997) confirmed that in piano lessons teacher modelling was an important part of the most effective lessons, and Barry and Hallam (2002) also emphasised the need for teacher demonstrations to act as appropriate models for student learning. Conversely, a study by Rostvall and West (2003) reported that lack of teacher demonstration had a negative effect on student learning.

In earlier research a study by Rosenthal (1984) compared the effects of four different teaching strategies on the accuracy of advanced instrumentalists' practice (guided model, model only, guide only, and practice only) and found that subjects in the model only group consistently attained the highest scores. This suggests that direct teacher modelling, without verbal comments, may be the most effective teaching strategy to improve the accuracy of student playing. Rosenthal, Wilson, Evans, and Greenwalt (1988) reached similar conclusions, when they examined the relationship of five practice

conditions (modelling, singing, silent analysis, free practice and control-practice) to the performance accuracy of advanced wind players. In more recent studies Linklater (1997) found that students improved more in home practice after watching the model videotape than after listening to the audio model or the accompaniment part only, and Hewitt (2001) showed that listening to a model improved student playing in the areas of tone, rhythm and interpretation, but not intonation or accuracy.

The research on modelling has established that demonstration plays a vital role in instrumental learning. Its importance in higher education setting has to be assessed.

The overview of literature found limited evidence on instrumental teaching strategies in higher education such as high incidence of teacher talk with predominant usage of directives, more specific practice approaches and greater criticism of student playing. Research from other music settings suggests that teacher modelling, specific praise and questioning could play an important role in effective instrumental instruction. In addition, numerous approaches to efficient practising have been established. The significance of these factors in actual instrumental music lessons in higher education needs to be evaluated.

Purpose

The purpose of the study was to identify those teaching strategies in use in contemporary Australian higher education instrumental music lessons and rank them in order of

frequency. Gender differences between the teachers and towards the students were to be examined.

Method

The large study adopted the approach of systematic observation that employs highly structured protocols to analyse videotaped data of instrumental music teaching. Many aspects of teaching were investigated including lessons structure, content, teaching methodology and teacher/student relationship. This paper reports the findings on teaching strategies.

Twelve prominent teachers from five Australian higher education institutions and their 24 students participated in the project. The teachers were employed full-time by the institutions and had established reputation as successful teachers and performers nationally. The impact of institutional culture was diminished by involving instrumental staff from five higher education institutions to arrive at a sample representative of typical teaching in this setting. The sample was instrument- and gender-balanced, with four teachers of piano, wind and strings and equal numbers of male and female teachers and students in each instrument group. An examination of three groups of instruments provided the opportunity to focus on universal aspects of instrumental teaching rather than a narrow range of instrument-specific problems. Recruitment of equal numbers of participants of each gender allowed for gender analysis of results largely missing from research to date. Each teacher was videotaped teaching two lessons: one with a male student and one with a female student. The camera was left unmanned on ‘auto’ to

minimise disruption to lessons. Teacher behaviours during the lessons were categorised and their frequencies counted.

Based on literature review and previous observational research of instrumental teaching (Gipson, 1978; Hepler, 1986), an observational instrument was developed. Gipson (1978) measured 37 discrete behaviours in wind lessons, counting verbal and musical behaviours. Hepler (1986) used more generalised categories, such as student playing and teacher talking and focused on teacher field-dependence. Teacher questioning was measured by Gipson (1978), feedback by both Hepler (1986) and Gipson (1978), modelling and practising have been highlighted by research, and explanations and directives were included in more recent studies (Colprit, 2000; Young, Burwell and Pickup, 2003). The categories (see Table 1) were refined in pilot studies, criterion- and content-validated and tested for inter- and intra-judge reliability (see Zhukov, 2009b, for details). Criterion validity was established by incorporating categories used in earlier research into the observational instrument. Modifications and new categories were based on pilot studies of analysing random 10-minute samples of lessons. Content validity was established by comparing the definitions of each category with three instrumental experts' descriptions of video examples in that category to arrive at final definition. Reliability of the observational instrument was determined by high correlations (0.83–0.91) between the scoring by the researcher and the three postgraduate music education students who received training in the use of the observational instrument. Correlation of 0.99 between the researcher's original marking and a subsequent marking six months later verified the intra-judge reliability.

The researcher viewed the videotaped lessons in minute portions, pausing every few seconds to score teacher behaviours in each category. The raw data totals in each category were divided by duration of actual lesson to arrive at score per minute from which a score per hour was calculated to achieve parity between lessons of different length. Statistical analyses included means and correlations across teacher and student gender.

Table 1. A description of categories of verbal and non-verbal teacher behaviours

Modelling		Teacher demonstrating how to play correctly, 'mirroring' student performance, singing or humming
General Directions		General teacher directions (e.g., "Do it again", "From here")
Explanation		Teacher explaining what was wrong in the student's performance
Feedback	Positive General	General positive evaluation by the teacher (e.g., "Yes", "Good", "Well done"), nodding the head in agreement
	Positive Specific	Specific positive evaluation by the teacher (e.g., "That was good because...") or "Good" after a specific task has been performed correctly
	Negative General	General negative evaluation by the teacher (e.g., "No", "Not like this"), shaking the head in disagreement
	Negative Specific	Specific negative evaluation by the teacher (e.g., "That was not good because ...") or "No" after a specific task has been performed incorrectly
Questioning	General Questions	Teacher asking student general questions (e.g., "What will you play today?")
	Specific Questions	Teacher asking student specific questions (e.g., "How exactly are you managing this [technical problem]?")
	Answers	Teacher answering student's questions (e.g., "You need to soften your wrist to achieve this effect")
Organisation	Practice	Teacher suggesting various ways to practise a particular passage, general discussions of practising schedule
	Future Planning	Planning of repertoire for future lessons, examinations, and recitals
	Attendance	Discussions of attendance of lessons, Master Classes, and Concert Practices

Results and discussion

The overall trends showed clearly two categories of teacher behaviour as occurring most frequently: Modelling (M = 26.3) and General Directions (M = 13.9). The third highest mean was in the category of Positive Specific Evaluation (M = 10.4), though this was

closely followed by the results in the categories of Positive General Evaluation, General Questions and Answers. The summary of teacher behaviour analyses is shown in Table 2. Gender differences emerged in a number of categories and are discussed under each heading.

Teacher modelling

The results show that Modelling was used widely in this sample of advanced instrumental music lessons. This teacher behaviour was the most frequent overall, with generally a uniform approach across the sample. Both gender groups demonstrated similarly, given the means of 27.1 for the female teachers and 25.5 for the male teachers. The teachers treated the female and male students in the same way, as indicated by the corresponding means of 27.1 and 25.4. The findings support earlier research on importance of teacher modelling in instrumental teaching (Lehmann, Sloboda & Woody, 2007; Barry & Hallam, 2002; Radocy & Boyle, 1997; Sienbenaler, 1997) and highlight its prevalence in higher education studio.

General directions

General Directions were the second most frequent teacher behaviour in this study, but they were only half as frequent as Modelling. The male teachers scored higher in this category than the female teachers, given the means of 16.2 and 11.5 respectively. The results suggest that the male teachers attempted to exert more control over their lessons than the female teachers. The scores in the lessons of female students were similar to the lessons of male students: means of 14.4 and 13.3.

Table 2. Summary of teacher behaviours

Category	Positive General	Positive Specific	Negative General	Negative Specific	General Questions	Specific Questions	Answers	Model ling	Expla nation	General Directions	Practice	Future Planning	Atten dance
Male Teachers' Mean (SD)	9.5 (5.5)	10.2 (7.2)	1.0 (1.0)	2.0 (2.7)	9.8 (4.0)	4.2 (3.9)	7.3 (4.3)	25.5 (9.9)	9.7 (5.0)	16.2 (7.5)	2.8 (2.0)	1.1 (1.0)	0.9 (1.2)
Female Teachers' Mean (SD)	9.5 (5.0)	10.6 (5.6)	1.0 (1.0)	1.9 (1.8)	9.0 (4.9)	3.4 (2.4)	10.3 (6.2)	27.1 (10.1)	6.0 (3.2)	11.5 (6.2)	6.0 (6.2)	2.6 (3.5)	1.0 (0.8)
Teachers' Mean/ Female Students (SD)	9.5 (5.6)	9.9 (5.8)	1.0 (1.0)	1.2 (1.6)	9.9 (4.9)	3.7 (2.3)	8.0 (5.5)	27.1 (11.4)	8.2 (4.4)	14.4 (4.6)	4.2 (4.5)	2.0 (3.3)	0.8 (0.9)
Teachers' Mean/ Male Students (SD)	9.5 (4.8)	10.9 (7.0)	1.0 (1.0)	2.7 (2.6)	8.9 (4.0)	3.9 (4.0)	9.6 (5.4)	25.4 (8.4)	7.5 (4.7)	13.3 (9.1)	4.7 (5.2)	1.7 (1.9)	1.1 (1.1)
All Teachers' Mean (SD)	**9.5 (5.1)**	**10.4 (6.3)**	**1.0 (1.0)**	**1.9 (2.2)**	**9.4 (4.4)**	**3.8 (3.2)**	**8.8 (5.4)**	**26.3 (9.8)**	**7.8 (4.5)**	**13.9 (7.1)**	**4.4 (4.8)**	**1.9 (2.6)**	**1.0 (1.0)**

Note. Results are shown in percentages of all teacher behaviour categories per hour of lesson.

The findings contradict three studies by Goolsby (1997), Colprit (2000), and Young, Burwell, and Pickup (2003) that reported teacher directives to be the most frequent teacher behaviour. This discrepancy could be explained by the different educational settings that these three studies had examined and no breakdown of data with regard to gender. In the present study it was the male teachers who scored higher in the categories of General Directions and Explanation, which together suggests a rather authoritarian approach to teaching by men.

Feedback

After modelling, teacher evaluation of students' playing was another frequent teaching strategy in this sample. The four categories of evaluation considered in this study (Positive General, Positive Specific, Negative General, and Negative Specific) constituted a total of 22.8% of all teacher behaviours, making feedback the second most frequent teaching device after Modelling. Both the male and female teachers used about 20% of positive statements to 3% of negative statements in their lessons. The results on reinforcement support earlier research on the high use of praise in instrumental music teaching (Bartholomew, 1993; Single, 1991).

On the use of Specific rather than General feedback, the results between Positive General and Positive Specific are similar across the sample, while the results for Negative Specific are higher than for Negative General across the sample, in particular for the male students (means of 2.7 and 1.0 respectively). This adds to our understanding of this issue: teachers were more specific when criticising students, but not when praising them. Yet, the teachers directed more of their specific praise and specific criticism towards the male

students (M = 10.9 and M = 2.7) than towards the female students (M = 9.9 and M = 1.2). The findings support earlier research that indicated high specific feedback by expert teachers (Goolsby, 1997; Siebenaler, 1997) and provide further clarification of the issue with regard to gender.

Questioning

The three categories of teacher questioning (General Questions, Specific Questions and Answers) formed a total of 19.2% of all teacher behaviours, making it a substantial tool in instrumental teaching. The high use of questions by the teachers in this sample can be attributed to the higher education setting in contrast to earlier research (Carpenter, 1988; Yarborough & Price, 1989).

Teachers used two and a half times more General Questions than Specific Questions with a uniform approach across the sample. While previous research recommended greater use of specific questions instead of general questions to improve teacher efficacy (Single, 1991), educational theory and instructional reality may not be one and the same. Only one study (Goolsby, 1997) reported actual usage of specific questions by expert teachers. With little research evidence available in this area, it is difficult to hypothesize the reasons for this result.

Female teachers gave more Answers to students than the male teachers (means of 10.3 and 7.3 respectively). More of the teachers' Answers were directed at the male students than the female students (M = 9.6 and M = 8.0). These results provide evidence of a more facilitating attitude by the female teachers and towards the male students.

Explanations

Explanations were the seventh most frequent teacher behaviour in this sample. The male teachers gave more Explanations than the female teachers, given the means of 9.7 and 6.0 respectively. This tendency by the male teachers to provide more explanations suggests that their approach to teaching is more authoritarian than the female teachers. The similarity of results in the lessons of male and female students indicates a uniform treatment of the students by both teacher genders.

While the results do not support earlier findings on the degree of prevalence of explanations in instrumental music teaching (Goolsby, 1997; Colprit, 2000), the body of literature that includes teacher explanations in its analysis of music teaching is still small and not gender specific. The findings nonetheless firmly establish the presence of explanations in advanced music lessons and provide new evidence on gender differences amongst teachers regarding their use.

Organisation

The literature has indicated the need for teachers to possess good organisational skills (King, 1998; Abeles, Goffi, & Levasseaur, 1992), but no gender attributions have been made in research on effective teaching. In this study teacher organisational skills were measured using the categories of Attendance, Future Planning and Practice.

Discussions of Future Planning and Attendance were infrequent among the advanced instrumental teaching strategies, with means of only 1.9 and 1.0 in these categories respectively. Most of teacher organisation took the form of Practice discussions (the overall mean of 4.4), which is treated separately below. The female teachers were better

organised than the male teachers, an assertion that can be justified by significant correlations between the categories of Practice, Future Planning and Attendance for the female teachers (correlation of .78 between Practice and Future planning, .68 between Future planning and Attendance, and .59 between Practice and Attendance). The negative correlations between all three categories for the male teachers suggest lack of consistency (-.46 for Practice and Future Planning; -.02 for Future Planning and Attendance; -.36 for Practice and Attendance). While numerical results were similar for both student groups, the correlations between the three categories show that teacher organisation was stronger in the lessons of female students (correlations of .86 between Practice and Future Planning, .72 between Future Planning and Attendance, and .65 between Practice and Attendance) than in the lessons of male students (only one significant correlation between Practice and Future Planning of .60).

The results suggest that the female teachers were more organised than the male teachers, and that the teachers appeared to be more organised in the lessons of female students. Since previous research has made no gender attributions in this area (Abeles, Goffi, & Levasseur, 1992), the findings provide new insights that need to be confirmed by future studies.

Practising

In this study the participants were advanced adult instrumentalists. These students have already mastered the basics of playing on their instruments and had some knowledge of practising techniques. In general, the observed teachers simply exhorted students to do more practice, with little practical assistance on how to practise, aside from suggestions

to play slowly. While the research in this area has identified many innovative ways to practise (Zhukov, 2009a), such as mental practice and analysis, there was little evidence of this knowledge being applied in reality.

The results show that discussions of Practice formed a considerable part of organisation. The notion of a strong relationship between Practice and Future Planning was born out by a significant correlation of .71 between these variables across the sample. However gender differences among the teachers were noticeable. The female teachers devoted more time to discussions of Practice than the male teachers, given the means of 6.0 and 2.8 respectively. While the female teachers talked more about practising, they did not necessarily offer students more advice on how to practise. No gender differences were observed in the treatment of students.

Summary of gender differences in teacher behaviour

A number of subtle differences between the results of the two teacher groups and the similarities in the male and female teachers' treatment of the two student groups have been discussed under each category. Table 3 highlights these distinctions with reference to the overall mean in each category. Since a large number of variables with relatively small differences were considered, a deviation of 1% from the mean was deemed to be of importance. This produced at least a 2% differential between the two groups being compared.

The male teachers used more explanations and general directions than the female teachers, but gave fewer answers and practice suggestions to the students. The female teachers provided more answers to students' questions and devoted more time to practice

discussions than the male teachers, but offered fewer explanations and directives. The findings suggest a more authoritarian role by the male teachers and a more cooperative role by the female teachers in this sample.

The male students received more specific teacher criticism than the female students. The reasons for this are not clear and might lie in teacher/student social interactions in this particular sample.

Table 3. Summary of gender differences in teacher behaviour

Categories	Overall means	Means for male teachers	Means for female teachers	Means in lessons of male students	Means in lessons of female students
Positive General	9.5	9.5	9.5	9.5	9.5
Positive Specific	10.4	10.2	10.6	10.9	9.9
Negative General	1.0	1.0	1.0	1.0	1.0
Negative Specific	1.9	2.0	1.9	**2.7**	*1.2*
General Questions	9.4	9.8	9.0	8.9	9.9
Specific Questions	3.8	4.2	3.4	3.9	3.7
Answers	8.8	*7.3*	**10.3**	9.6	8.0
Demonstration	26.3	25.5	27.1	25.4	27.1
Explanation	7.8	**9.7**	*6.0*	7.5	8.2
General Directions	13.9	**16.2**	*11.5*	13.3	14.4
Practice	4.4	*2.8*	**6.0**	4.7	4.2
Future Planning	1.9	1.1	2.6	1.7	2.0
Attendance	1.0	0.9	1.0	1.1	0.8

Note. Results are shown in percentages of all teaching behaviour categories per hour of lesson.
The scores of more than 1% above the mean are shown in **bold**.
The scores of more than 1% below the mean are shown in *italics*.

Conclusions

The findings indicate the importance of teacher modelling as the predominant teaching strategy in advanced instrumental music lessons, with teacher directives being half as frequent as teacher modelling in this sample.

The results show that these instrumental teachers were overall generous with their praise, with over 80% of their feedback being positive. While research suggests that specific praise and criticism are more effective than general evaluations, the results of this study

suggest that instrumental music teachers tend to be more specific when criticising, but not when praising their students. That is, teacher criticism is often associated with negative statements directed at a specific student error, in contrast to praising, which is more likely to involve more global positive appraisal. In this study negative teacher evaluations were largely directed at male students, which raises questions on gender differences in the use of approvals and disapprovals.

The findings indicate that the teachers were employing general questions much more frequently than specific questions. The tasks in advanced instrumental lessons are very specific, in that the students are involved in mastering a particular technical skill. This perhaps required the teachers to adjust their questioning strategies to the level appropriate to student skill level. It is also possible that, even in higher education, teachers may not be aware of the type of questions they ask of students, because their knowledge of teaching is largely tacit rather than explicit.

The results in the category of teacher explanations suggest that advanced instrumental teachers did not use this strategy frequently, coming well behind demonstrations, feedback and questioning. The findings show gender differences in the use of explanations, with the male teachers scoring higher in this area.

In the area of organisation the findings indicate that the female teachers were better organised than the male teachers, and that teachers were more organised in lessons of female students. While it is difficult to establish the reasons for this, the results highlight the need for gender analysis to be included in future research.

The findings in the area of practising were disappointing. While the results indicate that female teachers were more interested in discussing practising than male teachers, these

advanced instrumental music teachers did little to develop the range of their students' practising strategies, aside from exhorting them to practise more and to practise slowly. Instrumental teachers and their students would benefit from testing research findings on innovative practising in their studios.

This study has focused on broad aspects of advanced instrumental music teaching that were not limited to one instrument or by institutional culture. While the results reported here describe a small sample of expert teachers whose teaching might have been influenced by their training, teaching experience and location of their institutions and, therefore, need to be replicated in larger samples of teaching advanced instrumentalists, they provide studio teachers with new evidence of the relative priority of teaching practices and raise questions regarding gender differences in teaching.

References

Abeles, H., Goffi, J., & Levasseur, S. (1992). The components of effective applied instruction. *The Quarterly Journal of Music Teaching and Learning, 3*(2), 17–23.

Barry, N. H. (1992). The effects of practice, individual differences in cognitive style, and gender upon technical accuracy and musicality of student instrumental performance. *Psychology of Music, 20*, 112–123.

Barry, N. H., & Hallam, S. (2002). Practice. In R. Parncutt & G. E. McPherson (Eds), *The science and psychology of music performance: creative strategies for teaching and learning* (pp. 151–165). Oxford: Oxford University Press.

Barry, N. H., & McArthur, V. (1994). Teaching strategies in the music studio: a survey of applied music teachers. *Psychology of Music, 22*, 44–55.

Bartholomew, D. (1993). Effective strategies for praising students. *Music Educators Journal, 80*(3), 40–43.

Burwell, K. (2005). A degree of independence: teachers' approaches to instrumental tuition in a university college. *British Journal of Music Education, 22*(3), 199–215.

Carpenter, R. A. (1988). A descriptive analysis of relationships between verbal behaviours of teacher-conductors and ratings of selected junior and senior high school rehearsals. *Update: Applications of Research in Music Education, 7*(1), 37–40.

Colprit, E. J. (2000). Observation and analysis of Suzuki string teaching. *Journal of Research in Music Education, 48***(**3), 206–21.

Connolly, C., & Williamon, A. (2004). Mental skills training. In A. Williamon (Ed), *Musical excellence: strategies and techniques to enhance performance* (pp. 221-245). Oxford: Oxford University Press.

Dickey, M. R. (1992). A review of research on modeling in music teaching in learning. *Bulletin of the Council for Research in Music Education, 113*, 27–40.

Duke, R. A. (1999). Teacher and student behavior in Suzuki string lessons. *Journal of Research in Music Education, 47*, 293–307.

Duke, R. A., & Henninger, J. C. (2002). Effects of verbal corrections on student attitude and performance. *Journal of Research in Music Education, 46*, 482–495.

Gipson, R. C. (1978). An observational analysis of wind instrument private lessons. *Dissertation Abstracts International, 39*, 2118A.

Goolsby, T. W. (1997). Verbal instruction in instrumental rehearsals: A comparison of three career levels and preservice teachers. *Journal of Research in Music Education, 45***,** 21–40.

Hallam, S. (1997). Approaches to instrumental music practice of experts and novices: Implications for education. In H. Jorgensen & A. C. Lehmann (Eds.), *Does practice make perfect? Current theory and research on instrumental practice* (pp. 89–107). Oslo, Norway: Norges Musikkhogskole.

Hendel, C. (1995). Behavioral characteristics and instructional patterns of selected music teachers. *Journal of Research in Music Education, 43*, 182–203.

Hepler, L. E. (1986). The measurement of teacher-student interaction in private music lessons and its relation to teacher field dependence/ independence. *Dissertation Abstracts International, 47*, 2939A.

Hewitt, M. P. (2001). The effect of modelling, self-evaluation, and self-listening on junior high instrumentalists' music performance and practice attitude. *Journal of Research in Music Education, 49*(4), 307–322.

Jorgensen, H. (2004). Strategies for individual practice. In A. Williamon (Ed.), *Music excellence: Strategies and techniques to enhance performance* (pp. 85–103). Oxford: Oxford University Press.

Karlsson, J., & Juslin, P. H. (2008). Musical expression: an observational study of instrumental teaching. *Psychology of Music, 36*(3), 309–334.

Kennel, R. (2002). Systematic research in studio instruction in music. In R. Colwell & C. Richardson (Eds.), *The new handbook of research on music teaching and learning*. Oxford: Oxford University Press.

King, G. (1998). Exemplary music educator: a case study. *Bulletin of the Council for Research in Music Education, 137*, 57–72.

Lehmann, A. C., Sloboda. J. A., & Woody, R. H. (2007). *Psychology for musicians: understanding and acquiring the skills*. Oxford: Oxford University Press.

Linklater, F. (1997). Effects of audio- and videotape models on performance achievement of beginning clarinetists. *Journal of Research in Music Education, 45*(3), 402–414.

McPherson, G. E., & Davidson, J. W. (2002). Musical practice: mother and child interactions during the first year of learning an instrument. *Music Education Research, 4*(1), 141–156.

McPherson, G. E., & Zimmerman, B. J. (2002). Self-regulation of musical learning. In R. Colwell & C. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 327–347). New York: Oxford University Press.

Miklaszewski, K. (1989). A case study of pianist preparing a musical performance. *Psychology of Music, 17*, 95–109.

Pace, R. (1992). Productive practising. *Clavier, 31*(6), 17–19.

Pallister, R. (1995). *Studio piano teaching: an investigation into verbal interaction between teachers and students*. Unpublished master's thesis, Sydney Conservatorium of Music, University of Sydney, Australia.

Persson, R. S. (1996). Brilliant performers as teachers: a case study of commonsense teaching in a conservatory setting. *International Journal of Music Education, 28*, 25–36.

Radocy, R. E., & Boyle, J. D. (1997). *Psychological foundations of musical behavior* (3rd Ed.). Springfield, IL: Charles C. Thomas.

Rosenshine, B., Froehlich, H., & Fakhouri, I. (2002). Systematic instruction. In R. Colwell & C. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 229–314). Oxford: Oxford University Press.

Rosenthal, R. K. (1984). The relative effects of guided model, model only, guide only, and practice only treatments on the accuracy of advanced instrumentalists' practice. *Journal of Research in Music Education, 32*, 265–273.

Rosenthal, R., Wilson, M., Evans, M., & Greenwalt, L. (1988). Effects of different practice conditions on advanced instrumentalists' performance accuracy. *Journal of Research in Music Education, 36*(4), 250–257.

Rostvall, A., & West, T. (2003). Analysis of interaction and learning in instrumental teaching. *Music Education Research, 5*(3), 213–226.

Siebenaler, D. J. (1997). Analysis of teacher-student interactions in the piano lessons of adults and children. *Journal of Research in Music Education, 45*(1), 6–20.

Single, N. A. (1991). A summary of research-based principles of effective teaching. *Update, 9*(2), 3–10.

Sogin, D. W., & Vallentine, J. F. (1992). Use of instructional time and repertoire diversity in university applied music lessons. *The Quarterly Journal of Music Teaching and Learning, 3*(4), 32–36.

Speer, D. R. (1994). An analysis of sequential patterns of instruction in piano lessons. *Journal of Research in Music Education, 42*(1), 14–26.

Tannhauser, R. (1999). Questioning the effectiveness of learning strategies and practice in the instrumental studio towards the new millennium. *Proceedings of the*

Australian Society for Music Education XII National Conference, University of Sydney, NSW, Australia, 9–13 July 1999, 191–195.

Uszler, M. (1992). Research on the teaching of keyboard music. In R. Colwell (Ed.), *Handbook of Research on Music Teaching and Learning*. New York: Schirmer Books.

Yarbrough, C., & Price, H. E. (1989). Sequential patterns of instruction in music. *Journal of Research in Music Education, 37*(3), 179–187.

Young, V., Burwell, K., & Pickup, D. (2003). Areas of study and teaching strategies in instrumental teaching: a case study research project. *Music Education Research, 5*(2), 139–155.

Zhukov, K. (2009a). Effective practising: a research perspective. *Australian Journal of Music Education, 1*, 3–12.

Zhukov, K. (2009b). *Instrumental music teaching and learning in Australia* (ISBN 978-3-8383-0828-9). Köln: Lambert Academic Publishing.